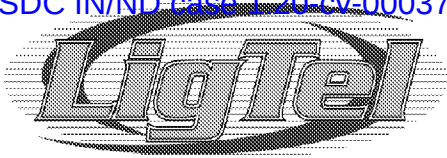# EXHIBIT 5

Cybersecurity Policies

Backup Policy	Created: 9/14/2017
Section of: Corporate Security Policies	Target Audience: Technical
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

A backup policy is similar to an insurance policy - it provides the last line of defense against data loss and is sometimes the only way to recover from a hardware failure, data corruption, or a security incident. A backup policy is related closely to a disaster recovery policy, but since it protects against events that are relatively likely to occur, in practice it will be used more frequently than a contingency planning document.   A company's backup policy is among its most important policies.

2.0 Purpose

The purpose of this policy is to provide a consistent framework to apply to the backup process.   The policy will provide specific information to ensure backups are available and useful when needed - whether to simply recover a specific file or when a larger-scale recovery effort is needed.

3.0 Scope

This policy applies to all data stored on corporate systems.   The policy covers such specifics as the type of data to be backed up, frequency of backups, storage of backups, retention of backups, and restoration procedures.

4.0 Policy

4.1 Identification of Critical Data
The company must identify what data is most critical to its organization.   This can be done through a formal data classification process or through an informal review of information assets.   Regardless of the method, critical data should be identified so that it can be given the highest priority during the backup process.

-

4.2 Data to be Backed Up
A backup policy must balance the importance of the data to be backed up with the burden such backups place on the users, network resources, and the backup administrator.   Data to be backed up will include:

- All data determined to be critical to company operation and/or employee job function.

- All information stored on the corporate file server(s) and email server(s).   It is the

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user's responsibility to ensure any data of importance is moved to the file server.

- All information stored on network servers, which may include web servers, database servers, domain controllers, firewalls, and remote access servers, etc.

4.3 Backup Frequency
Backup frequency is critical to successful data recovery. The company has determined that the following backup schedule will allow for sufficient data recovery in the event of an incident, while avoiding an undue burden on the users, network, and backup administrator.

Incremental: every day
Full: every 3 days

4.4 Off-Site Rotation
Geographic separation from the backups must be maintained, to some degree, in order to protect from fire, flood, or other regional or large-scale catastrophes. Offsite storage must be balanced with the time required to recover the data, which must meet the company's uptime requirements. The company has determined that backup media must be rotated off-site at least once per week.

4.5 Backup Storage
Storage of backups is a serious issue and one that requires careful consideration. Since backups contain critical, and often confidential, company data, precautions must be taken that are commensurate to the type of data being stored. The company has set the following guidelines for backup storage.

When stored onsite, backups should be kept in an access-controlled area. When shipped off-site, a hardened facility (i.e., commercial backup service or safe deposit box) that uses accepted methods of environmental controls, including fire suppression, and security processes must be used to ensure the integrity of the backup media. Online backups are allowable if the service meets the criteria specified herein.

4.6 Backup Retention
When determining the time required for backup retention, the company must determine what number of stored copies of backup-up data is sufficient to effectively mitigate risk while preserving required data. The company has determined that the following will meet all requirements (note that the backup retention policy must confirm to the company's data retention policy and any industry regulations, if applicable):

Incremental Backups must be saved for one week.

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Full Backups must be saved for one month.

4.7 Restoration Procedures & Documentation

The data restoration procedures must be tested and documented.   Documentation should include exactly who is responsible for the restore, how it is performed, under what circumstances it is to be performed, and how long it should take from request to restoration.   It is extremely important that the procedures are clear and concise such that they are not A) misinterpreted by readers other than the backup administrator, and B) confusing during a time of crisis.

4.8 Restoration Testing

Since a backup policy does no good if the restoration process fails it is important to periodically test the restore procedures to eliminate potential problems.

Backup restores must be tested when any change is made that may affect the backup system, as well as twice per year.

4.9 Expiration of Backup Media

Certain types of backup media, such as magnetic tapes, have a limited functional lifespan.   After a certain time in service the media can no longer be considered dependable.   When backup media is put into service the date must be recorded on the media.   The media must then be retired from service after its time in use exceeds manufacturer specifications.

4.10 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

Backup - To copy data to a second location, solely for the purpose of safe keeping of that data.

Backup Media - Any storage devices that are used to maintain data for backup purposes.   These are

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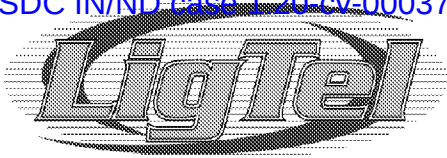often magnetic tapes, CDs, DVDs, or hard drives.

Full Backup - A backup that makes a complete copy of the target data.

Incremental Backup - A backup that only backs up files that have changed in a designated time period, typically since the last backup was run.

Restoration - Also called "recovery."   The process of restoring the data from its backup-up state to its normal state so that it can be used and accessed in a regular manner.

7.0 Revision History

Revision 1.0, 9/14/2017

LT003458

Cybersecurity Policies

Encryption Policy	Created: 9/14/2017
Section of: Corporate Security Policies	Target Audience: Technical
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

Encryption, also known as cryptography, can be used to secure data while it is stored or being transmitted.   It is a powerful tool when applied and managed correctly.   As the amount of data the company must store digitally increases, the use of encryption must be defined and consistently implemented in order ensure that the security potential of this technology is realized.

2.0 Purpose

The purpose of this policy is to outline the company's standards for use of encryption technology so that it is used securely and managed appropriately.   Many policies touch on encryption of data so this policy does not cover what data is to be encrypted, but rather how encryption is to be implemented and controlled.

3.0 Scope

This policy covers all data stored on or transmitted across corporate systems.

4.0 Policy

4.1 Applicability of Encryption

1.   Data while stored.   This includes any data located on company-owned or company-provided systems, devices, media, etc.   Examples of encryption options for stored data include:

    o   Whole disk encryption

    o   Encryption of partitions/files

    o   Encryption of disk drives

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Encryption Policy	Created: 9/14/2017
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- o   Encryption of personal storage media/USB drives

- o   Encryption of backups

- o   Encryption of data generated by applications

2. Data while transmitted.   This includes any data sent across the company network, or any data sent to or from a company-owned or company-provided system.   Types of transmitted data that can be encrypted include:

- o   VPN tunnels

- o   Remote access sessions

- o   Web applications

- o   Email and email attachments

- o   Remote desktop access

- o   Communications with applications/databases

4.2 Encryption Key Management

Key management is critical to the success of an implementation of encryption technology.   The following guidelines apply to the company's encryption keys and key management:

- Management of keys must ensure that data is available for decryption when needed

- Keys must be backed up

- Keys must be locked up

- Keys must never be transmitted in clear text

- Keys are confidential data

- Keys must not be shared

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- Physical key generation materials must be destroyed within 5 business days.

- Keys must be used and changed in accordance with the password policy.

- When user encryption is employed, minimum key length is 10 characters.

4.3 Acceptable Encryption Algorithms

Only the strongest types of generally-accepted, non-proprietary encryption algorithms are allowed, such as AES or 3DES.   Acceptable algorithms should be reevaluated as encryption technology changes.

Use of proprietary encryption is specifically forbidden since it has not been subjected to public inspection and its security cannot be assured.

4.4 Legal Use

Some governments have regulations applying to the use and import/export of encryption technology. The company must conform with encryption regulations of the local or applicable government.
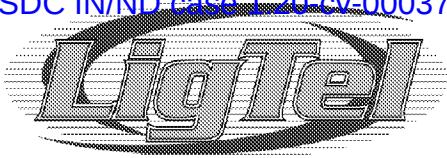
The company specifically forbids the use of encryption to hide illegal, immoral, or unethical acts. Anyone doing so is in violation of this policy and will face immediate consequences per the Enforcement section of this document.

4.5 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

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6.0 Definitions

Encryption - The process of encoding data with an algorithm so that it is unintelligible without the key. Used to protect data during transmission or while stored.

Encryption Key - An alphanumeric series of characters that enables data to be encrypted and decrypted.

Mobile Storage Media - A data storage device that utilizes flash memory to store data.   Often called a USB drive, flash drive, or thumb drive.

Password - A sequence of characters that is used to authenticate a user to a file, computer, or network. Also known as a passphrase or passcode.

Remote Access - The act of communicating with a computer or network from an off-site location. Often performed by home-based or traveling users to access documents, email, or other resources at a main site.

Remote Desktop Access - Remote control software that allows users to connect to, interact with, and control a computer over the Internet just as if they were sitting in front of that computer.

Virtual Private Network (VPN) - A secure network implemented over an insecure medium, created by using encrypted tunnels for communication between endpoints.

Whole Disk Encryption - A method of encryption that encrypts all data on a particular drive or volume, including swap space and temporary files.

7.0 Revision History

Revision 1.0, 9/14/2017

Cybersecurity Policies

Guest Access Policy	Created: 9/14/2017
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

Guest access to the company's network is often necessary for customers, consultants, or vendors who are visiting the company's offices.   This can be simply in the form of outbound Internet access, or the guest may require access to specific resources on the company's network.   Guest access to the company's network must be tightly controlled.

2.0 Purpose

The company may wish to provide network access as a courtesy to guests wishing to access the Internet, or by necessity to visitors with a business need to access the company's resources.   This policy outlines the company's procedures for securing guest access.

3.0 Scope

The scope of this policy includes any visitor to the company wishing to access the network or Internet through the company's infrastructure, and covers both wired and wireless connections.   This scope excludes guests accessing wireless broadband accounts directly through a cellular carrier or third party where the traffic does not traverse the company's network.

4.0 Policy

4.1 Granting Guest Access

Guest access will be provided on a case-by-case basis to any person who can demonstrate a reasonable business need to access the network, or access the Internet from the company network.

4.1.1 AUP Acceptance

Guests must agree to and sign the company's Acceptable Use Policy (AUP) before being granted access.

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4.1.2 Approval

Guest need for access will be evaluated and provided on a case-by-case basis.   This should involve management approval if the request is non-standard.

4.1.3 Account Use

Guest accounts, if offered, are only to be used by guests.   Users with network accounts must use their accounts for network access.   Guest accounts must be set up for each guest accessing the company's network.   Guest accounts must have specific expiration dates that correlate to the business need for the individual guest's access.   The account expiration date is not to exceed thirty days.

4.1.4 Security of Guest Machines

Guest machines must be audited by the Information Technology department before being allowed to access the network.   The company should ensure that that the Network Access Policy will be adhered to, which may involve a virus/malware scan prior to being granted access.

4.2 Guest Access Infrastructure Requirements

Best practices dictate that guest access be kept separate, either logically or physically, from the corporate network, since guests have typically not undergone the same amount of scrutiny as the company's employees.   This must be weighed, however, with the costs and technical issues that come with providing such separation.   At this time the company does not provide any specific requirements for guest access infrastructure.   Guest access should be provided prudently and monitored for appropriateness of use.

4.3 Restrictions on Guest Access

Guest access will be restricted to the minimum amount necessary.   Depending on the guest needing access, this can often be limited to outbound Internet access only.   The company will evaluate the need of each guest and provide further access if there is a business need to do so.

4.4 Monitoring of Guest Access

Since guests are not employees of the company they are not considered trusted users.   As such, the

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company will monitor guest access to ensure that the company's interests are protected and the Acceptable Use Policy is being adhered to.

4.5 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

Account - A combination of username and password that allows access to computer or network resources.

Guest - A visitor to the company premises who is not an employee.

7.0 Revision History

Revision 1.0, 9/14/2017

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Incident Response Policy	Created: 9/14/2017
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

A security incident can come in many forms: a malicious attacker gaining access to the network, a virus or other malware infecting computers, or even a stolen laptop containing confidential data.   A well-thought-out Incident Response Policy is critical to successful recovery from an incident.   This policy covers all incidents that may affect the security and integrity of the company's information assets, and outlines steps to take in the event of such an incident.

2.0 Purpose

This policy is intended to ensure that the company is prepared if a security incident were to occur.   It details exactly what must occur if an incident is suspected, covering both electronic and physical security incidents.   Note that this policy is not intended to provide a substitute for legal advice, and approaches the topic from a security practices perspective.

3.0 Scope

The scope of this policy covers all information assets owned or provided by the company, whether they reside on the corporate network or elsewhere.

4.0 Policy

4.1 Types of Incidents

A security incident, as it relates to the company's information assets, can take one of two forms.   For the purposes of this policy a security incident is defined as one of the following:

- Electronic: This type of incident can range from an attacker or user accessing the network for unauthorized/malicious purposes, to a virus outbreak, to a suspected Trojan or malware infection.

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- Physical: A physical IT security incident involves the loss or theft of a laptop, mobile device, Smartphone, tablet, portable storage device, or other digital apparatus that may contain company information.

4.2 Preparation

Work done prior to a security incident is arguably more important than work done after an incident is discovered.   The most important preparation work, obviously, is maintaining good security controls that will prevent or limit damage in the event of an incident.   This includes technical tools such as firewalls, intrusion detection systems, authentication, and encryption; and non-technical tools such as good physical security for laptops and mobile devices.

Additionally, prior to an incident, the company must ensure that the following is clear to IT personnel:

- What actions to take when an incident is suspected.

- Who is responsible for responding to an incident.

The company must have discussions with an IT Security company that offers incident response services before such an incident occurs in order to prepare an emergency service contract.   This will ensure that high-end resources are quickly available during an incident.

Finally, the company should review any industry or governmental regulations that dictate how it must respond to a security incident (specifically, loss of customer data), and ensure that its incident response plans adhere to these regulations.

4.3 Confidentiality

All information related to an electronic or physical security incident must be treated as confidential information until the incident is fully contained.   This will serve both to protect employees' reputations (if an incident is due to an error, negligence, or carelessness), and to control the release of information to the media and/or customers.

4.4 Electronic Incidents

When an electronic incident is suspected, the company's goal is to recover as quickly as possible, limit the damage done, and secure the network.   The following steps should be taken in order:

1. Remove the compromised device from the network by unplugging or disabling network

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connection.   Do not power down the machine.

2. Disable the compromised account(s) as appropriate.

3. Report the incident to the IT Manager.

4. Backup all data and logs on the machine, or copy/image the machine to another system.

5. Determine exactly what happened and the scope of the incident.   Was it an accident?   An attack? A Virus?   Was confidential data involved?   Was it limited to only the system in question or was it more widespread?

6. Notify company management/executives as appropriate.

7. Contact an IT Security consultant as needed.

8. Determine how the attacker gained access and disable this access.

9. Rebuild the system, including a complete operating system reinstall.

10. Restore any needed data from the last known good backup and put the system back online.

11. Take actions, as possible, to ensure that the vulnerability (or similar vulnerabilities) will not reappear.

12. Reflect on the incident.   What can be learned?   How did the Incident Response team perform?   Was the policy adequate?   What could be done differently?

13. Consider a vulnerability assessment as a way to spot any other vulnerabilities before they can be exploited.

4.5 Physical Incidents

Physical security incidents are challenging, since often the only actions that can be taken to mitigate the incident must be done in advance.   This makes preparation critical.   One of the best ways to prepare is to mandate the use of strong encryption to secure data on mobile devices.   Applicable policies, such as those covering encryption and confidential data, should be reviewed.

Physical security incidents are most likely the result of a random theft or inadvertent loss by a user, but they must be treated as if they were targeted at the company.

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The company must assume that such a loss will occur at some point, and periodically survey a random sampling of laptops and mobile devices to determine the risk if one were to be lost or stolen.

4.5.1 Response

Establish the severity of the incident by determining the data stored on the missing device.   This can often be done by referring to a recent backup of the device.   Two important questions must be answered:

1. Was confidential data involved?
    a. If not, refer to "Loss Contained" below.
    b. If confidential data was involved, refer to "Data Loss Suspected" below.

2. Was strong encryption used?
    a. If strong encryption was used, refer to "Loss Contained" below.
    b. If not, refer to "Data Loss Suspected" below.

4.5.2 Loss Contained

First, change any usernames, passwords, account information, WEP/WPA keys, passphrases, etc., that were stored on the system.   Notify the IT Manager.   Replace the lost hardware and restore data from the last backup.   Notify the applicable authorities if a theft has occurred.

4.5.3 Data Loss Suspected

First, notify the executive team, legal counsel, and/or public relations group so that each team can evaluate and prepare a response in their area.

Change any usernames, passwords, account information, WEP/WPA keys, passphrases, etc., that were stored on the system.   Replace the lost hardware and restore data from the last backup.   Notify the applicable authorities as needed if a theft has occurred and follow disclosure guidelines specified in the notification section.

Review procedures to ensure that risk of future incidents is reduced by implementing stronger physical security controls.

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4.6 Notification

If an electronic or physical security incident is suspected to have resulted in the loss of third-party or customer data, follow applicable regulations and/or industry breach disclosure laws and append the regulations to this policy.

4.7 Managing Risk

Managing risk of a security incident or data loss is the primary reason to create and maintain a comprehensive security policy.   Risks can come in many forms: electronic risks like data corruption, computer viruses, hackers, or malicious users; or physical risks such as loss/theft of a device, hardware failure, fire, or a natural disaster.   Protecting critical data and systems from these risks is of paramount importance to the company.

4.7.1 Risk Assessment

As part of the risk management process, the company must conduct an accurate and thorough assessment of the potential risks and vulnerabilities to the confidentiality, integrity, and availability of the company's critical or confidential information.   The process must include the following steps:
   a.   Scope the assessment.   Determine both the physical and logical boundaries of the assessment.
   b.   Gather information.   Determine what confidential or critical information is maintained by the company.   Determine how this information is secured.
   c.   Identify threats.   Determine what man-made and natural events could affect the company's electronic information.
   d.   Identify Vulnerabilities. After threats have been identified, determine the company's exposure to each threat.   External assessments may be useful here, as covered in the Network Security Policy.
   e.   Assess Security Controls.   After vulnerabilities have been cataloged, determine the efficiency of the company's security controls in mitigating that vulnerability.
   f.   Determine the potential impact of each vulnerability being exploited.   Would the event result in loss of confidentiality, loss of integrity, or loss of availability of the information?
   g.   Determine the company's level of risk.   Based on the information gathered in the previous steps, make a determination to the company's level of risk of each event.
   h.   Recommend security controls.   Security controls that will mitigate the identified risks are evaluated during this step.   Consider cost, operational impact, and effectiveness of each control.
   i.   Document the risk assessment results.   The final step is to document the risk assessment, including the results of each step.

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4.7.2 Risk Management Program

A formal risk management program must be implemented to cover any risks known to the company (which should be identified through a risk assessment), and insure that reasonable security measures are in place to mitigate any identified risks to a level that will ensure the continued security of the company's confidential and critical data.

4.8 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

Encryption - The process of encoding data with an algorithm so that it is unintelligible without the key. Used to protect data during transmission or while stored.

Malware - Short for "malicious software."   A software application designed with malicious intent. Viruses and Trojans are common examples of malware.

Mobile Device - A portable device that can be used for certain applications and data storage. Examples are PDAs or Smartphones.

PDA - Stands for Personal Digital Assistant.   A portable device that stores and organizes personal information, such as contact information, calendar, and notes.

Smartphone - A mobile telephone that offers additional applications, such as PDA functions and email.

Trojan - Also called a "Trojan Horse."   An application that is disguised as something innocuous or legitimate, but harbors a malicious payload.   Trojans can be used to covertly and remotely gain access

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to a computer, log keystrokes, or perform other malicious or destructive acts.

Virus - Also called a "Computer Virus."   A replicating application that attaches itself to other data, infecting files similar to how a virus infects cells.   Viruses can be spread through email or via network-connected computers and file systems.

WEP - Stands for Wired Equivalency Privacy.   A security protocol for wireless networks that encrypts communications between the computer and the wireless access point.   WEP can be cryptographically broken with relative ease.

WPA - Stands for WiFi Protected Access.   A security protocol for wireless networks that encrypts communications between the computer and the wireless access point.   Newer and considered more secure than WEP.

7.0 Revision History

Revision 1.0, 9/14/2017

Cybersecurity Policies

Network Access and Authentication Policy	Created: 9/14/2017
Section of: Corporate Security Policies	Target Audience: Technical
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

Consistent standards for network access and authentication are critical to the company's information security and are often required by regulations or third-party agreements. Any user accessing the company's computer systems has the ability to affect the security of all users of the network. An appropriate Network Access and Authentication Policy reduces risk of a security incident by requiring consistent application of authentication and access standards across the network.

2.0 Purpose

The purpose of this policy is to describe what steps must be taken to ensure that users connecting to the corporate network are authenticated in an appropriate manner, in compliance with company standards, and are given the least amount of access required to perform their job function. This policy specifies what constitutes appropriate use of network accounts and authentication standards.

3.0 Scope

The scope of this policy includes all users who have access to company-owned or company-provided computers or require access to the corporate network and/or systems. This policy applies not only to employees, but also to guests, contractors, and anyone requiring access to the corporate network. Public access to the company's externally-reachable systems, such as its corporate website or public web applications, are specifically excluded from this policy.

4.0 Policy

4.1 Account Setup

During initial account setup, certain checks must be performed in order to ensure the integrity of the process. The following policies apply to account setup:

- Positive ID and coordination with Human Resources is required.

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- Users will be granted least amount of network access required to perform his or her job function.

- Users will be granted access only if he or she accepts the Acceptable Use Policy.

- Access to the network will be granted in accordance with the Acceptable Use Policy.

4.2 Account Use

Network accounts must be implemented in a standard fashion and utilized consistently across the organization.   The following policies apply to account use:

- Accounts must be created using a standard format (i.e., firstname lastname, or firstinitial lastname, etc.)

- Accounts must be password protected (refer to the Password Policy for more detailed information).

- Accounts must be for individuals only.   Account sharing and group accounts are not permitted.

- User accounts must not be given administrator or 'root' access unless this is necessary to perform his or her job function.

- Guest access is not allowed under any circumstance.   Only employees will be allowed network access.

- Individuals requiring access to confidential data must have an individual, distinct account.   This account may be subject to additional monitoring or auditing at the discretion of the IT Manager or executive team, or as required by applicable regulations or third-party agreements.

4.3 Account Termination

When managing network and user accounts, it is important to stay in communication with the Human Resources department so that when an employee no longer works at the company, that employee's account can be disabled.   Human Resources must create a process to notify the IT Manager in the event of a staffing change, which includes employment termination, employment suspension, or a

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change of job function (promotion, demotion, suspension, etc.).

4.4 Authentication

User machines must be configured to request authentication against the domain at startup. If the domain is not available or authentication for some reason cannot occur, then the machine should not be permitted to access the network.

4.5 Use of Passwords

When accessing the network locally, username and password is an acceptable means of authentication. Usernames must be consistent with the requirements set forth in this document, and passwords must conform to the company's Password Policy.

4.6 Remote Network Access

Remote access to the network can be provided for convenience to users but this comes at some risk to security. For that reason, the company encourages additional scrutiny of users remotely accessing the network. The company's standards dictate that username and password is an acceptable means of authentication as long as appropriate policies are followed. Remote access must adhere to the Remote Access Policy.

4.7 Screensaver Passwords

Screensaver passwords offer an easy way to strengthen security by removing the opportunity for a malicious user, curious employee, or intruder to access network resources through an idle computer. For this reason screensaver passwords are required to be activated after 5 minutes of inactivity.

4.8 Minimum Configuration for Access

Any system connecting to the network can have a serious impact on the security of the entire network. A vulnerability, virus, or other malware may be inadvertently introduced in this manner. For this reason, users should update their antivirus software, as well as other critical software, to the latest versions before accessing the network.

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4.9 Encryption

Industry best practices state that username and password combinations must never be sent as plain text.   If this information were intercepted, it could result in a serious security incident.   Therefore, authentication credentials must be encrypted during transmission across any network, whether the transmission occurs internal to the company network or across a public network such as the Internet.

4.10 Failed Logons

Repeated logon failures can indicate an attempt to 'crack' a password and surreptitiously access a network account.   In order to guard against password-guessing and brute-force attempts, the company must lock a user's account after 5 unsuccessful logins.   This can be implemented as a time-based lockout or require a manual reset, at the discretion of the IT Manager.

In order to protect against account guessing, when logon failures occur the error message transmitted to the user must not indicate specifically whether the account name or password were incorrect.   The error can be as simple as "the username and/or password you supplied were incorrect."

4.11 Non-Business Hours

While some security can be gained by removing account access capabilities during non-business hours, the company does not mandate time-of-day lockouts.   This may be either to encourage working remotely, or because the company's business requires all-hours access.

4.12 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

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6.0 Definitions

Antivirus Software - An application used to protect a computer from viruses, typically through real time defenses and periodic scanning.   Antivirus software has evolved to cover other threats, including Trojans, spyware, and other malware.

Authentication - A security method used to verify the identity of a user and authorize access to a system or network.

Biometrics - The process of using a person's unique physical characteristics to prove that person's identity.   Commonly used are fingerprints, retinal patterns, and hand geometry.

Encryption - The process of encoding data with an algorithm so that it is unintelligible without the key. Used to protect data during transmission or while stored.

Password - A sequence of characters that is used to authenticate a user to a file, computer, or network. Also known as a passphrase or passcode.

Smart Card - A plastic card containing a computer chip capable of storing information, typically to prove the identity of the user.   A card-reader is required to access the information.

Token - A small hardware device used to access a computer or network.   Tokens are typically in the form of an electronic card or key fob with a regularly changing code on its display.

7.0 Revision History

Revision 1.0, 9/14/2017

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1.0 Overview

The company wishes to provide a secure network infrastructure in order to protect the integrity of corporate data and mitigate risk of a security incident.   While security policies typically avoid providing overly technical guidelines, this policy is necessarily a more technical document than most.

2.0 Purpose

The purpose of this policy is to establish the technical guidelines for IT security, and to communicate the controls necessary for a secure network infrastructure.   The network security policy will provide the practical mechanisms to support the company's comprehensive set of security policies.   However, this policy purposely avoids being overly-specific in order to provide some latitude in implementation and management strategies.

3.0 Scope

This policy covers all IT systems and devices that comprise the corporate network or that are otherwise controlled by the company.

4.0 Policy

4.1 Network Device Passwords

A compromised password on a network device could have devastating, network-wide consequences. Passwords that are used to secure these devices, such as routers, switches, and servers, must be held to higher standards than standard user-level or desktop system passwords.

4.1.1 Password Construction

The following statements apply to the construction of passwords for network devices:

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- Passwords should be at least 8 characters

- Passwords should be comprised of a mix of letters, numbers and special characters (punctuation marks and symbols)

- Passwords should be comprised of a mix of upper and lower case characters

- Passwords should not be comprised of, or otherwise utilize, words that can be found in a dictionary

- Passwords should not be comprised of an obvious keyboard sequence (i.e., qwerty)

- Passwords should not include "guessable" data such as personal information like birthdays, addresses, phone numbers, locations, etc.

4.1.2 Failed Logons

Repeated logon failures can indicate an attempt to 'crack' a password and surreptitiously access a network account.   In order to guard against password-guessing and brute-force attempts, the company must lock a user's account after 5 unsuccessful logins.   This can be implemented as a time-based lockout or require a manual reset, at the discretion of the IT Manager.

In order to protect against account guessing, when logon failures occur the error message transmitted to the user must not indicate specifically whether the account name or password were incorrect.   The error can be as simple as "the username and/or password you supplied were incorrect."

4.1.3 Change Requirements

Passwords must be changed according to the company's Password Policy.   Additionally, the following requirements apply to changing network device passwords:

- If any network device password is suspected to have been compromised, all network device passwords must be changed immediately.

- If a company network or system administrator leaves the company, all passwords to which the administrator could have had access must be changed immediately. This statement also applies to any consultant or contractor who has access to administrative passwords.

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- Vendor default passwords must be changed when new devices are put into service.

4.1.4 Password Policy Enforcement

Where passwords are used an application must be implemented that enforces the company's password policies on construction, changes, re-use, lockout, etc.

4.1.5 Administrative Password Guidelines

As a general rule, administrative (also known as "root") access to systems should be limited to only those who have a legitimate business need for this type of access.   This is particularly important for network devices, since administrative changes can have a major effect on the network, and, as such, network security.   Additionally, administrative access to network devices should be logged.

4.2 Logging

The logging of certain events is an important component of good network management practices. Logging needs vary depending on the type of network system, and the type of data the system holds. The following sections detail the company's requirements for logging and log review.

4.2.1 Application Servers

Logs from application servers are of interest since these servers often allow connections from a large number of internal and/or external sources.   These devices are often integral to smooth business operations.

Examples: Web, email, database servers

Requirement: At a minimum, logging of errors, faults, and login failures is required.   Additional logging is encouraged as deemed necessary.   No passwords should be contained in logs.

4.2.2 Network Devices

Logs from network devices are of interest since these devices control all network traffic, and can have a huge impact on the company's security.

Examples: Firewalls, network switches, routers

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Requirement: At a minimum, logging of errors, faults, and login failures is required.   Additional logging is encouraged as deemed necessary. No passwords should be contained in logs.

4.2.3 Critical Devices

Critical devices are any systems that are critically important to business operations.   These systems may also fall under other categories above - in any cases where this occurs, this section shall supersede.

Examples: File servers, lab or manufacturing machines, systems storing intellectual property

Requirements: At a minimum, logging of errors, faults, and login failures is required.   Additional logging is encouraged as deemed necessary. No passwords should be contained in logs.

4.2.4 Log Management

While logging is important to the company's network security, log management can become burdensome if not implemented appropriately. As logs grow, so does the time required to review the logs. For this reason, the company recommends that a log management application be considered.

4.2.5 Log Review

Device logs do little good if they are not reviewed on a regular basis. Log management applications can assist in highlighting important events, however, a member of the company's IT team must still review the logs at least once per quarter.

4.2.6 Log Retention

Logs should be retained in accordance with the company's Retention Policy. Unless otherwise determined by the IT manager, logs should be considered operational data.

4.3 Firewalls

Firewalls are arguably the most important component of a sound security strategy.   Internet connections and other unsecured networks must be separated from the company network through the use of a firewall.

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4.3.1 Configuration

The following statements apply to the company's implementation of firewall technology:

- Firewalls must provide secure administrative access (through the use of encryption) with management access limited, if possible, to only networks where management connections would be expected to originate.

- No unnecessary services or applications should be enabled on firewalls.   The company should use 'hardened' systems for firewall platforms, or appliances.

- Clocks on firewalls should be synchronized with the company's other networking hardware using NTP or another means.   Among other benefits, this will aid in problem resolution and security incident investigation.

- The firewall ruleset must be documented and audited quarterly.   Audits must cover each rule, what it is for, if it is still necessary, and if it can be improved.

- For its own protection, the firewall ruleset must include a "stealth rule," which forbids connections to the firewall itself.

4.3.2 Outbound Traffic Filtering

Firewalls are often configured to block only inbound connections from external sources; however, by filtering outbound connections from the network, security can be greatly improved.   This practice is also referred to as "Egress Traffic Filtering."

Blocking outbound traffic prevents users from accessing unnecessary, and many times, dangerous services.   By specifying exactly what outbound traffic to allow, all other outbound traffic is blocked. This type of filtering would block root kits, viruses, and other malicious tools if a host were to become compromised.   This will also prevent remote desktops from accessing the internal network.

The company encourages outbound filtering if possible, but it is not required.   If filtering is deemed possible, only the following known "good" services should be permitted outbound from the network: 21, 22, 23, 25, 53, 80, 110, 443, and 995.

4.4 Networking Hardware

Networking hardware, such as routers, switches, hubs, bridges, and access points, should be implemented in a consistent manner.   The following statements apply to the company's implementation of networking hardware:

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- Networking hardware must provide secure administrative access (through the use of encryption) with management access limited, if possible, to only networks where management connections would be expected to originate.

- Clocks on all network hardware should be synchronized using NTP or another means. Among other benefits, this will aid in problem resolution and security incident investigation.

- If possible for the application, switches are preferred over hubs.   When using switches the company should use VLANs to separate networks if it is reasonable and possible to do so.

- Access control lists must be implemented on network devices that prohibit direct connections to the devices.   Connections to the router should be limited to the greatest extent possible.   Exceptions to this are management connections that can be limited to known sources.

- Unused services and ports must be disabled on networking hardware.

- Access to administrative ports on networking hardware must be restricted to known management hosts and otherwise blocked with a firewall or access control list.

4.5 Network Servers

Servers typically accept connections from a number of sources, both internal and external.   As a general rule, the more sources that connect to a system, the more risk that is associated with that system, so it is particularly important to secure network servers.   The following statements apply to the company's use of network servers:

- Unnecessary files, services, and ports should be removed or blocked.   If possible, follow a server-hardening guide, which is available from the leading operating system manufacturers.

- Network servers, even those meant to accept public connections, must be protected by a firewall or access control list.

- If possible, a standard installation process should be developed for the company's network servers.   This will provide consistency across servers no matter what employee or contractor handles the installation.

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- Clocks on network servers should be synchronized with the company's other networking hardware using NTP or another means.   Among other benefits, this will aid in problem resolution and security incident investigation.

4.6 Intrusion Detection/Intrusion Prevention

Intrusion Detection System (IDS) and Intrusion Prevention System (IPS) technology can be useful in network monitoring and security.   The tools differ in that an IDS alerts to suspicious activity whereas an IPS blocks the activity.   When tuned correctly, IDSs are useful but can generate a large amount of data that must be evaluated for the system to be of any use.   IPSs automatically take action when they see suspicious events, which can be both good and bad, since legitimate network traffic can be blocked along with malicious traffic.

The company requires the use of either an IDS or IPS on critical or high-risk network segments.   If an IDS is used, procedures must be implemented to review and act on the alerts expediently.   If an IPS is used, procedures must be implemented that provide a mechanism for emergency unblocking if the IPS obstructs legitimate traffic.   Also, if an IPS is used, it should be audited and documented according to the standards detailed in the "Firewalls" section of this document.

4.7 Security Testing

Security testing, also known as a vulnerability assessment, a security audit, or penetration testing, is an important part of maintaining the company's network security.   Security testing can be provided by IT Staff members, but is often more effective when performed by a third party with no connection to the company's day-to-day Information Technology activities.   The following sections detail the company's requirements for security testing.

4.7.1 Internal Security Testing

Internal security testing does not necessarily refer to testing of the internal network, but rather testing performed by members of the company's IT team.   Internal testing should not replace external testing; however, when external testing is not practical for any reason, or as a supplement to external testing, internal testing can be helpful in assessing the security of the network.

Internal security testing is allowable, but only by employees whose job functions are to assess security, and only with permission of the IT Manager.   Internal testing should have no measurable negative impact on the company's systems or network performance.

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4.7.2 External Security Testing

External security testing, which is testing by a third party entity, is an excellent way to audit the company's security controls.   The IT Manager must determine to what extent this testing should be performed, and what systems/applications it should cover.

External testing must not negatively affect network performance during business hours or network security at any time.

As a rule, "penetration testing," which is the active exploitation of company vulnerabilities, should be discouraged.   If penetration testing is performed, it must not negatively impact company systems or data.

The company requires that external security testing be performed annually.

4.8 Disposal of Information Technology Assets

IT assets, such as network servers and routers, often contain sensitive data about the company's network communications.   When such assets are decommissioned, the following guidelines must be followed:

- Any asset tags or stickers that identify the company must be removed before disposal.

- Any configuration information must be removed by deletion or, if applicable, resetting the device to factory defaults.

- Physical destruction of the device's data storage mechanism (such as its hard drive or solid state memory) is required.   If physical destruction is not possible, the IT Manager must be notified.

4.9 Network Compartmentalization

Good network design is integral to network security.   By implementing network compartmentalization, which is separating the network into different segments, the company will reduce its network-wide risk from an attack or virus outbreak.   Further, security can be increased if traffic must traverse additional enforcement/inspection points.   The company requires the following with regard to network compartmentalization:

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4.9.1 Higher Risk Networks

Examples: Guest network, wireless network

Requirements: Segmentation of higher risk networks from the company's internal network is encouraged but not required.

4.9.2 Externally-Accessible Systems

Examples: Email servers, web servers

Requirements: Segmentation of externally-accessible systems from the company's internal network is encouraged but not required.

4.9.3 Internal Networks

Examples: Sales, Finance, Human Resources

Requirements: Segmentation of internal networks from one another can improve security as well as reduce chances that a user will access data that he or she has no right to access. The company encourages, but does not require, such segmentation.

4.10 Network Documentation

Network documentation, specifically as it relates to security, is important for efficient and successful network management. Further, the process of regularly documenting the network ensures that the company's IT Staff has a firm understanding of the network architecture at any given time. The intangible benefits of this are immeasurable.

At a minimum, network documentation must include:

- Network diagram(s)

- System configurations

- Firewall ruleset

- IP Addresses

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- Access Control Lists

The company requires that network documentation be performed and updated on an annual basis or as changes are made to the network.

4.11 Antivirus/Anti-Malware

Computer viruses and malware are pressing concerns in today's threat landscape.   If a machine or network is not properly protected, a virus outbreak can have devastating effects on the machine, the network, and the entire company.   The company provides the following guidelines on the use of antivirus/anti-malware software:

- All company-provided user workstations must have antivirus/anti-malware software installed.

- Workstation software must maintain a current "subscription" to receive patches and virus signature/definition file updates.

- Patches, updates, and antivirus signature file updates must be installed in a timely manner, either automatically or manually

- In addition to the workstation requirements, virus and malware scanning must be implemented at the Internet gateway to protect the entire network from inbound threats.

- 4.12 Software Use Policy
- Software applications can create risk in a number of ways, and thus certain aspects of software use must be covered by this policy.   The company provides the following requirements for the use of software applications:

- Only legally licensed software may be used.   Licenses for the company's software must be stored in a secure location.

- Open source and/or public domain software can only be used with the permission of the IT Manager.

- Software should be kept reasonably up-to-date by installing new patches and releases from the manufacturer.

- Vulnerability alerts should be monitored for all software products that the company

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uses.   Any patches that fix vulnerabilities or security holes must be installed expediently.

4.13 Maintenance Windows and Scheduled Downtime

Certain tasks require that network devices be taken offline, either for a simple re-boot, an upgrade, or other maintenance.   When this occurs, the IT Staff must perform the tasks before and after normal business hours.   Tasks that are deemed "emergency support," as determined by the IT Manager, can be performed at any time.

4.14 Change Management

Documenting changes to network devices is a good management practice and can help speed resolution in the event of an incident.   The IT Staff should make a reasonable effort to document hardware and/or configuration changes to network devices in a "change log."   If possible, network devices should bear a sticker or tag indicating essential information, such as the device name, and any additional data that may be helpful, such as information about cabling. Additional details about the equipment such as IP Address, MAC Address, Asset Information and other details will be kept in the network documentation at the companies corporate office.

4.15 Suspected Security Incidents

When a security incident is suspected that may impact a network device, the IT Staff should refer to the company's Incident Response policy for guidance.

4.16 Redundancy

Redundancy can be implemented on many levels, from redundancy of individual components to full site-redundancy.   As a general rule, the more redundancy implemented, the higher the availability of the device or network, and the higher the associated cost.   The company wishes to provide the IT Manager with latitude to determine the appropriate level of redundancy for critical systems and network devices.   Redundancy should be implemented where it is needed, and should include some or all of the following:

- Hard drive redundancy, such as mirroring or RAID

- Server level redundancy, such as clustering or high availability

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- Component level redundancy, such as redundant power supplies or redundant NICs

- Keeping hot or cold spares onsite

4.17 Manufacturer Support Contracts

Outdated products can result in a serious security breach.   When purchasing critical hardware or software, the company must purchase a maintenance plan, support agreement, or software subscription that will allow the company to receive updates to the software and/or firmware for a specified period of time.   The plan must meet the following minimum requirements:

Hardware: The arrangement must allow for repair/replacement of the device within an acceptable time period, as determined by the IT Manager, as well as firmware or embedded software updates.

Software: The arrangement must allow for updates, upgrades, and hotfixes for a specified period of time.

4.18 Security Policy Compliance

It is the company's intention to comply with this policy not just on paper but in its everyday processes as well.   With that goal in mind the company requires the following:

4.18.1 Security Program Manager

An employee must be designated as a manager for the company's security program.   He or she will be responsible for the company's compliance with this security policy and any applicable security regulations.   This employee must be responsible for A) the initial implementation of the security policies, B) ensuring that the policies are disseminated to employees, C) training and retraining of employees on the company's information security program (as detailed below), D) any ongoing testing or analysis of the company's security in compliance with this policy, E) updating the policy as needed to adhere with applicable regulations and the changing information security landscape.

4.18.2 Security Training

A training program must be implemented that will detail the company's information security program to all users and/or employees covered by the policy, as well as the importance of data security. Employees must sign off on the receipt of, and in agreement to, the user-oriented policies.   Re-training should be performed at least annually.

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4.18.3 Security Policy Review

The company's security policies should be reviewed at least annually.   Additionally, the policies should be reviewed when there is an information security incident or a material change to the company's security policies.   As part of this evaluation the company should review:

- Any applicable regulations for changes that would affect the company's compliance or the effectiveness of any deployed security controls.

- If the company's deployed security controls are still capable of performing their intended functions.

- If technology or other changes may have an effect on the company's security strategy.

- If any changes need to be made to accommodate future IT security needs.

4.19 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

ACL - A list that defines the permissions for use of, and restricts access to, network resources.   This is typically done by port and IP address.

Antivirus Software - An application used to protect a computer from viruses, typically through real time defenses and periodic scanning.   Antivirus software has evolved to cover other threats, including

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Trojans, spyware, and other malware.

Firewall - A security system that secures the network by enforcing boundaries between secure and insecure areas.   Firewalls are often implemented at the network perimeter as well as in high-security or high-risk areas.

Hub - A network device that is used to connect multiple devices together on a network.

IDS - Stands for Intrusion Detection System.   A network monitoring system that detects and alerts to suspicious activities.

IPS - Stands for Intrusion Prevention System.   A networking monitoring system that detects and automatically blocks suspicious activities.

NTP - Stands for Network Time Protocol.   A protocol used to synchronize the clocks on networked devices.

Password - A sequence of characters that is used to authenticate a user to a file, computer, network, or other device.   Also known as a passphrase or passcode.

RAID - Stands for Redundant Array of Inexpensive Disks.   A storage system that spreads data across multiple hard drives, reducing or eliminating the impact of the failure of any one drive.

Switch - A network device that is used to connect devices together on a network.   Differs from a hub by segmenting computers and sending data to only the device for which that data was intended.

VLAN - Stands for Virtual LAN (Local Area Network).   A logical grouping of devices within a network that act as if they are on the same physical LAN segment.

Virus - Also called a "Computer Virus."   A replicating application that attaches itself to other data, infecting files similar to how a virus infects cells.   Viruses can be spread through email or via network-connected computers and file systems.

7.0 Revision History

Revision 1.0, 9/14/2017

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1.0 Overview

Outsourcing is a logical practice when specialized expertise is required, which happens frequently in the field of Information Technology (IT).   Trust is necessary for a successful outsourcing relationship, however, the company must be protected by a policy that details and enforces the terms of the outsourcing relationship.

2.0 Purpose

The purpose of this policy is to specify actions to take when selecting a provider of outsourced IT services, standards for secure communications with the provider, and what contractual terms should be in place to protect the company.

3.0 Scope

This policy covers any IT services being considered for outsourcing.

4.0 Policy

4.1 Deciding to Outsource

Outsourcing IT services is often necessary but should be carefully considered, since by nature a certain amount of control will be lost by doing so.   The following questions must be affirmatively answered before outsourcing is considered:

- Can the service be performed better or less expensively by a third party provider?

- Would it be cost-prohibitive or otherwise unreasonable to perform this service in-house?

- Will outsourcing the service positively affect the quality of this service?

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- Is the cost of this service worth the benefit?

- Are any risks associated with outsourcing the service worth the benefit?

4.2 Outsourcing Core Functions

The company permits the outsourcing of critical and/or core functions of the company's Information Technology infrastructure as long as this policy is followed.   Examples of these types of functions are data backups, remote access, security, and network management.

4.3 Evaluating a Provider

Once the decision to outsource an Information Technology function has been made, selecting the appropriate provider is critical to the success of the endeavor.   Due diligence must be performed after the potential providers have been pared to a short list of two to three companies.   Due diligence must always be performed prior to a provider being selected.

Due diligence should include an evaluation of the provider's ability to perform the requested services, and must specifically cover the following areas:

- Technical ability of the provider

- Ability to deliver the service

- Experience of the provider

- Reputation of the provider

- Policies and procedures related to the service

- Financial strength of the provider

- Service Level Agreements related to the service

If the outsourced service will involve the provider having access to, or storing the company's confidential information, due diligence must cover the provider's security controls for access to the confidential information.

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4.4 Security Controls

The outsourcing contract must provide a mechanism for secure information exchange with the service provider.   This will vary with the type of service being outsourced, but may include remote access, VPN, or encrypted file exchange.

The company and provider must also maintain a mechanism for verifying the identity of the other party and confirming changes to the service.   This will prevent an attacker from using social engineering tactics to gain access to company data.

4.5 Outsourcing Contracts

All outsourced Information Technology services must be governed by a legal contract, with an original of the executed contract maintained by the company.

Contracts must:

- Cover a specified time period

- Specify exact pricing for the services

- Specify how the provider will treat confidential information

- Include a non-disclosure agreement

- Specify services to be provided, including Service Level Agreements and penalties for missing the levels

- Allow for cancellation if contractual terms are not met

- Specify standards for subcontracting of the services and reassignment of contract

- Cover liability issues

- Describe how and where to handle contractual disputes

4.6 Access to Information

The provider must be given the least amount of network, system, and/or data access required to perform the contracted services.   This access must follow applicable policies and be periodically

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audited.

4.7 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

Backup - To copy data to a second location, solely for the purpose of safe keeping of that data.

Encryption - The process of encoding data with an algorithm so that it is unintelligible without the key. Used to protect data during transmission or while stored.

Network Management - A far-reaching term that refers to the process of maintaining and administering a network to ensure its availability, performance, and security.

Remote Access - The act of communicating with a computer or network from an off-site location. Often performed by home-based or traveling users to access documents, email, or other resources at a main site.

VPN - A secure network implemented over an insecure medium, created by using encrypted tunnels for communication between endpoints.

7.0 Revision History

Revision 1.0, 9/14/2017

Outsourcing Policy   Confidential

Cybersecurity Policies

Physical Security Policy	Created: 9/14/2017
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

Information assets are necessarily associated with the physical devices on which they reside. Information is stored on workstations and servers and transmitted on the company's physical network infrastructure.   In order to secure the company data, thought must be given to the security of the company's physical Information Technology (IT) resources to ensure that they are protected from standard risks.

2.0 Purpose

The purpose of this policy is to protect the company's physical information systems by setting standards for secure operations.

3.0 Scope

This policy applies to the physical security of the company's information systems, including, but not limited to, all company-owned or company-provided network devices, servers, personal computers, mobile devices, and storage media.   Additionally, any person working in or visiting the company's office is covered by this policy.

Please note that this policy covers the physical security of the company's Information Technology infrastructure, and does not cover the security of non-IT items or the important topic of employee security.   While there will always be overlap, care must taken to ensure that this policy is consistent with any existing physical security policies.

4.0 Policy

4.1 Choosing a Site

When possible, thought should be given to selecting a site for IT Operations that is secure and free of unnecessary environmental challenges.   This is especially true when selecting a datacenter or a site for

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centralized IT operations.   At a minimum, the company's site should meet the following criteria:

- A site should not be particularly susceptible to fire, flood, earthquake, or other natural disasters.

- A site should not be located in an area where the crime rate and/or risk of theft is higher than average.

- A site should have the fewest number of entry points possible.

If these criteria cannot be effectively met for any reason, the company should consider outsourcing its data in whole or in part to a third-party datacenter or hosting provider, provided that such a company can cost effectively meet or exceed the company's requirements, and follows the outsourcing policy.

4.2 Security Zones

At a minimum, the company will maintain standard security controls, such as locks on exterior doors and/or an alarm system, to secure the company's assets.   In addition to this the company must provide security in layers by designating different security zones within the building.   Security zones should include:

Public This includes areas of the building or office that are intended for public access.

- Access Restrictions: None

- Additional Security Controls: None

- Examples: Lobby, common areas of building

Company This includes areas of the building or office that are used only by employees and other persons for official company business.

- Access Restrictions: Only company personnel and approved/escorted guests

- Additional Security Controls: Additional access controls should be used, such as keys, keypads, keycards, or similar devices, with access to these areas logged if possible.

- Examples: Hallways, private offices, work areas, conference rooms

Private This includes areas that are restricted to use by certain persons within the company, such as

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executives, scientists, engineers, and IT personnel, for security or safety reasons.

- Access Restrictions: Only specifically approved personnel

- Additional Security Controls: Additional access controls must be used, such as keys, keypads, keycards, or similar devices, with access to these areas logged. Additionally, an alarm system should be considered for these areas that will alert to unauthorized access.

- Examples: Executive offices, lab space, network room, manufacturing area, financial offices, and storage areas.

4.3 Access Controls

Access controls are necessary to restrict entry to the company premises and security zones to only approved persons.   There are a several standard ways to do this, which are outlined in this section, along with the company's guidelines for their use.

4.3.1 Keys & Keypads

The use of keys and keypads is acceptable, as long as keys are marked "do not duplicate" and their distribution is limited.   These security mechanisms are the most inexpensive and are the most familiar to users.   The disadvantage is that the company has no control, aside from changing the locks or codes, over how and when the access is used.   Keys can be copied and keypad codes can be shared or seen during input.   However, used in conjunction with another security strategy, such as an alarm system, good security can be obtained with keys and keypads.

4.3.2 Keycards & Biometrics

The company requires that keycards or biometrics be used for access to security zones designated as private.   The company should consider using these methods for all zones, though it is not required.

Keycards and biometrics have an advantage over keys in that access policies can be tuned to the individual user.   Schedules can be set to forbid off-hours access, or forbid users from accessing a security zone where they are not authorized.   Perhaps best of all, these methods allow for control over exactly who possesses the credentials.   If a keycard is lost or stolen it can be immediately disabled.   If an employee is terminated or resigns, that user's access can be disabled.   The granular control offered by keycards and biometrics make them appealing access control methods.

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4.3.3 Alarm System

A security alarm system is a good way to minimize risk of theft, or reduce loss in the event of a theft. The company mandates the use of professionally monitored alarm system. The system must be monitored 24x7, with company personnel being notified if an alarm is tripped at any time.

4.4 Physical Data Security

Certain physical precautions must be taken to ensure the integrity of the company's data. At a minimum, the following guidelines must be followed:

- Computer screens must be positioned where information on the screens cannot be seen by outsiders.

- Confidential and sensitive information must not be displayed on a computer screen where the screen can be viewed by those not authorized to view the information.

- Users must log off or shut down their workstations when leaving for an extended time period, or at the end of the workday.

- Network cabling must not run through non-secured areas unless the cabling is carrying only public data (i.e., extended wiring for an Internet circuit).

- Network ports that are not in use must be disabled.

4.5 Physical System Security

In addition to protecting the data on the company's information technology assets, this policy provides the guidelines below on keeping the systems themselves secure from damage or theft.

4.5.1 Minimizing Risk of Loss and Theft

In order to minimize the risk of data loss through loss or theft of company property, the following guidelines must be followed:

- Unused systems: If a system is not in use for an extended period of time it should be moved to a secure area or otherwise secured.

- Mobile devices: Special precautions must be taken to prevent loss or theft of mobile

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devices.   Refer to the company's Mobile Device Policy for guidance.

- Systems that store confidential data: Special precautions must be taken to prevent loss or theft of these systems.   Refer to the company's Confidential Data Policy for guidance.

4.5.2 Minimizing Risk of Damage

Systems that store company data are often sensitive electronic devices that are susceptible to being inadvertently damaged.   In order to minimize the risk of damage, the following guidelines must be followed:

- Environmental controls should keep the operating environment of company systems within standards specified by the manufacturer.   These standards often involve, but are not limited to, temperature and humidity.

- Proper grounding procedures must be followed when opening system cases.   This may include use of a grounding wrist strap or other means to ensure that the danger from static electricity is minimized.

- Strong magnets must not be used in proximity to company systems or media.

- Except in the case of a fire suppression system, open liquids must not be located above company systems.   Technicians working on or near company systems should never use the systems as tables for beverages.   Beverages must never be placed where they can be spilled onto company systems.

- Uninterruptible Power Supplies (UPSs) and/or surge-protectors are required for all company systems. These devices must carry a warranty that covers the value of the systems if the systems were to be damaged by a power surge.

4.6 Fire Prevention

It is the company's policy to provide a safe workplace that minimizes the risk of fire.   In addition to the danger to employees, even a small fire can be catastrophic to computer systems.   Further, due to the electrical components of IT systems, the fire danger in these areas is typically higher than other areas of the company's office.   The guidelines below are intended to be specific to the company's information technology assets and should conform to the company's overall fire safety policy.

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- Fire, smoke alarms, and/or suppression systems must be used, and must conform to local fire codes and applicable ordinances.

- Electrical outlets must not be overloaded.   Users must not chain multiple power strips, extension cords, or surge protectors together.

- Extension cords, surge protectors, power strips, and uninterruptible power supplies must be of the three-wire/three-prong variety.

- Only electrical equipment that has been approved by Underwriters Laboratories and bears the UL seal of approval must be used.

- Unused electrical equipment should be turned off when not in use for extended periods of time (i.e., during non-business hours) if possible.

- Periodic inspection of electrical equipment must be performed.   Power cords, cabling, and other electrical devices must be checked for excessive wear or cracks.   If overly-worn equipment is found, the equipment must be replaced or taken out of service immediately depending on the degree of wear.

- A smoke alarm monitoring service must be used that will alert a designated company employee if an alarm is tripped during non-business hours.

4.7 Entry Security

It is the company's policy to provide a safe workplace for employees.   Monitoring those who enter and exit the premises is a good security practice in general, but is particularly true for minimizing risk to company systems and data.   The guidelines below are intended to be specific to the company's information technology assets and should conform to the company's overall security policy.

4.7.1 Use of Identification Badges

Identification (ID) badges are useful to identify authorized persons on the company premises.   The company has established the following guidelines for the use of ID badges.

- Employees: Photo ID badges are required and must be displayed at all times while on company premises. Employees must remove their badges from view when out of the office.

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- Non-employees/Visitors: Visitor badges are required. Specific, non-generic badges must identify visitors by name and the date of the visit. The company should investigate visitor badges that automatically expire and determine if the use of such technology is feasible for use.

- Users must a report lost or stolen badge immediately to his or her supervisor. A temporary badge may be utilized in such cases until the badge can be re-generated.

- Initial badge generation will be done only at the direction of Human Resources for new hires or users changing jobs. Users must show photo identification for identity verification.

4.7.2 Sign-in Requirements

The company must maintain a sign-in log (or similar device) in the lobby or entry area and visitors must be required to sign in upon arrival.   At minimum, the register must include the following information: visitor's name, company name, reason for visit, name of person visiting, sign-in time, and sign-out time.

4.7.3 Visitor Access

Visitors should be given only the level of access to the company premises that is appropriate to the reason for their visit.   After checking in, visitors must be escorted unless they are considered "trusted" by the company.   Examples of a trusted visitor may be the company's legal counsel, financial advisor, or a courier that frequents the office, and will be decided on a case-by-case basis.

4.8 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

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6.0 Definitions

Biometrics - The process of using a person's unique physical characteristics to prove that person's identity.   Commonly used are fingerprints, retinal patterns, and hand geometry.

Datacenter - A location used to house a company's servers or other information technology assets. Typically offers enhanced security, redundancy, and environmental controls.

Keycard - A plastic card that is swiped, or that contains a proximity device, that is used for identification purposes.   Often used to grant and/or track physical access.

Keypad - A small keyboard or number entry device that allows a user to input a code for authentication purposes.   Often used to grant and/or track physical access.

Mobile Device - A portable device that can be used for certain applications and data storage. Examples are PDAs or Smartphones.

PDA - Stands for Personal Digital Assistant.   A portable device that stores and organizes personal information, such as contact information, calendar, and notes.

Smartphone - A mobile telephone that offers additional applications, such as PDA functions and email.

Uninterruptible Power Supplies (UPSs) - A battery system that automatically provides power to electrical devices during a power outage for a certain period of time.   Typically also contains power surge protection.

7.0 Revision History

Revision 1.0, 9/14/2017

Physical Security Policy   Confidential

Cybersecurity Policies

Third Party Connection Policy	Created: 9/14/2017
Section of: Corporate Security Policies	Target Audience: Technical
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

Direct connections to external entities are sometimes required for business operations.   These connections are typically to provide access to vendors or customers for service delivery.   Since the company's security policies and controls do not extend to the users of the third parties' networks, these connections can present a significant risk to the network and thus require careful consideration.

2.0 Purpose

The policy is intended to provide guidelines for deploying and securing direct connections to third parties.

3.0 Scope

The scope of this policy covers all direct connections to the company's network from non-company owned networks.   This policy excludes remote access and Virtual Private Network (VPN) access, which are covered in separate policies.

4.0 Policy

4.1 Use of Third Party Connections

Third party connections are to be discouraged and used only if no other reasonable option is available. When it is necessary to grant access to a third party, the access must be restricted and carefully controlled.   A requester of a third party connection must demonstrate a compelling business need for the connection.   This request must be approved and implemented by the IT Manager.

4.2 Security of Third Party Access

Third party connections require additional scrutiny.   The following statements will govern these

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connections:

- Connections to third parties must use a firewall or Access Control List (ACL) to separate the company's network from the third party's network.

- Third parties will be provided only the minimum access necessary to perform the function requiring access.   If possible this should include time-of-day restrictions to limit access to only the hours when such access is required.

- Wherever possible, systems requiring third party access should be placed in a public network segment or demilitarized zone (DMZ) in order to protect internal network resources.

- If a third party connection is deemed to be a serious security risk, the IT Manager will have the authority to prohibit the connection.   If the connection is absolutely required for business functions, additional security measures should be taken at the discretion of the IT Manager.

4.3 Restricting Third Party Access

Best practices for a third party connection require that the link be held to higher security standards than an intra-company connection.   As such, the third party must agree to:

- Restrict access to the company's network to only those users that have a legitimate business need for access.

- Provide the company with the names and any other requested information about individuals that will have access to the connection.   The company reserves the right to approve or deny this access based on its risk assessment of the connection.

- Supply the company with on-hours and off-hours contact information for the person or persons responsible for the connection.

- (If confidential data is involved) Provide the company with the names and any other requested information about individuals that will have access to the company's confidential data.   The steward or owner of the confidential data will have the right to approve or deny this access for any reason.

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4.4 Auditing of Connections

In order to ensure that third-party connections are in compliance with this policy, they must be audited quarterly.

4.5 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

Access Control List (ACL) - A list that defines the permissions for use of, and restricts access to, network resources.   This is typically done by port and IP address.

Demilitarized Zone (DMZ) - A perimeter network, typically inside the firewall but external to the private or protected network, where publicly-accessible machines are located.   A DMZ allows higher-risk machines to be segmented from the internal network while still providing security controls.

Firewall - A security system that secures the network by enforcing boundaries between secure and insecure areas.   Firewalls are often implemented at the network perimeter as well as in high-security or high-risk areas.

Third Party Connection - A direct connection to a party external to the company.   Examples of third party connections include connections to customers, vendors, partners, or suppliers.

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7.0 Revision History

Revision 1.0, 9/14/2017

LT003507

Cybersecurity Policies

VPN Policy	Created: 9/14/2017
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

A Virtual Private Network, or VPN, provides a method to communicate with remote sites securely over a public medium, such as the Internet.   A site-to-site VPN is a dependable and inexpensive substitute for a point-to-point Wide Area Network (WAN).   Site-to-site VPNs can be used to connect the LAN to a number of different types of networks: branch or home offices, vendors, partners, customers, etc.   As with any external access, these connections need to be carefully controlled through a policy.

2.0 Purpose

This policy details the company's standards for site-to-site VPNs.   The purpose of this policy is to specify the security standards required for such access, ensuring the integrity of data transmitted and received, and securing the VPN pathways into the network.

3.0 Scope

The scope of this policy covers all site-to-site VPNs that are a part of the company's infrastructure, including both sites requiring access to the company's network (inbound) and sites where the company connects to external resources (outbound).   Note that remote access VPNs are covered under a separate Remote Access Policy.

4.0 Policy

4.1 Encryption

Site-to-site VPNs must utilize strong encryption to protect data during transmission.   Encryption algorithms must meet or exceed current minimum industry standards, such as Triple DES or AES.

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4.2 Authentication

Site-to-site VPNs must utilize a strong password, pre-shared key, certificate, or other means of authentication to verify the identity the remote entity.   The strongest authentication method available must be used, which can vary from product-to-product.

4.3 Implementation

When site-to-site VPNs are implemented, they must adhere to the policy of least access, providing access limited to only what is required for business purposes.   This must be enforced with a firewall or other access control that has the ability to limit access only to the ports and IP addresses required for business purposes.

4.4 Management

The company should manage its own VPN gateways, meaning that a third party must not provide and manage both sides of the site-to-site VPN, unless this arrangement is covered under an outsourcing agreement.   If an existing VPN is to be changed, the changes must only be performed with the approval of the IT Manager.

4.5 Logging and Monitoring

Depending on the nature of the site-to-site VPN, the IT Manager will use his or her discretion as to whether additional logging and monitoring is warranted.   As an example, a site-to-site VPN to a third party would likely require additional scrutiny but a VPN to a branch office of the company would likely not be subject to additional logging or monitoring.

4.6 Encryption Keys

Site-to-site VPNs are created with pre-shared keys.   The security of these keys is critical to the security of the VPN, and by extension, the network.   Encryption keys should be changed periodically.

If certificates are used instead of pre-shared keys, the certificates should expire and be re-generated after three years.

4.7 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to

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the topics covered in this document and as such the applicable policies should be reviewed as needed.

5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

Certificate - Also called a "Digital Certificate." A file that confirms the identity of an entity, such as a company or person. Often used in VPN and encryption management to establish trust of the remote entity.

Demilitarized Zone (DMZ) - A perimeter network, typically inside the firewall but external to the private or protected network, where publicly-accessible machines are located. A DMZ allows higher-risk machines to be segmented from the internal network while still providing security controls.

Encryption - The process of encoding data with an algorithm so that it is unintelligible without the key. Used to protect data during transmission or while stored.

Remote Access VPN - A VPN implementation at the individual user level. Used to provide remote and traveling users secure network access.

Site-to-Site VPN - A VPN implemented between two static sites, often different locations of a business.

Virtual Private Network (VPN) - A secure network implemented over an insecure medium, created by using encrypted tunnels for communication between endpoints.

7.0 Revision History

Revision 1.0, 6/9/2017

Cybersecurity Policies

Wireless Access Policy	Created: 9/14/2017
Section of: Corporate Security Policies	Target Audience: Technical
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LigTel Communications is hereinafter referred to as "the company."

1.0 Overview

Wireless communication is playing an increasingly important role in the workplace.   In the past, wireless access was the exception; it has now become the norm in many companies.   However, while wireless access can increase mobility and productivity of users, it can also introduce security risks to the network.   These risks can be mitigated with a sound Wireless Access Policy.

2.0 Purpose

The purpose of this policy is to state the standards for wireless access to the company's network. Wireless access can be done securely if certain steps are taken to mitigate known risks.   This policy outlines the steps the company wishes to take to secure its wireless infrastructure.

3.0 Scope

This policy covers anyone who accesses the network via a wireless connection.   The policy further covers the wireless infrastructure of the network, including access points, routers, wireless network interface cards, and anything else capable of transmitting or receiving a wireless signal.

4.0 Policy

4.1 Physical Guidelines

Unless a directional antenna is used, a wireless access point typically broadcasts its signal in all directions.   For this reason, access points should be located central to the office space rather than along exterior walls.   If it is possible with the technology in use, signal broadcast strength should be reduced to only what is necessary to cover the office space.   Directional antennas should be considered in order to focus the signal to areas where it is needed.

Physical security of access points should be considered - access points should not be placed in public or easily accessed areas if possible.

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4.2 Configuration and Installation

The following guidelines apply to the configuration and installation of wireless networks:

4.2.1 Security Configuration

- The Service Set Identifier (SSID) of the access point must be changed from the factory default.

- Encryption must be used to secure wireless communications.   Stronger algorithms are preferred to weaker ones (i.e., WPA should be implemented rather than WEP). Encryption keys must be changed and redistributed as necessary.

- Administrative access to wireless access points must utilize strong passwords.

- All logging features should be enabled on the company's access points.

4.2.2 Installation

- Software and/or firmware on the wireless access points and wireless network interface cards (NICs) must be updated prior to deployment.

- Wireless networking must not be deployed in a manner that will circumvent the company's security controls.

- Wireless devices must be installed only by the company's IT department.

- Channels used by wireless devices should be evaluated to ensure that they do not interfere with company equipment.

4.3 Accessing Confidential Data

Wireless access to confidential data is permitted as long as the access is consistent with this and other policies that apply to confidential data.

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4.4 Inactivity

Users should disable their wireless capability when not using the wireless network.   This will reduce the chances that their machine could be compromised from the wireless NIC.

Inactive wireless access points should be disabled.   If not regularly used and maintained, inactive access points represent an unacceptable risk to the company.

4.5 Audits

The wireless network must be audited twice each year to ensure that this policy is being followed. Specific audit points should be: location of access points, signal strength, SSID, and use of strong encryption.

4.6 Applicability of Other Policies

This document is part of the company's cohesive set of security policies.   Other policies may apply to the topics covered in this document and as such the applicable policies should be reviewed as needed.
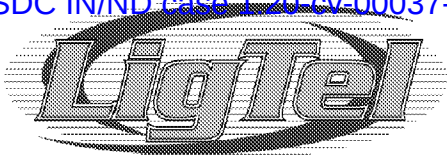
5.0 Enforcement

This policy will be enforced by the IT Manager and/or Executive Team. Violations may result in disciplinary action, which may include suspension, restriction of access, or more severe penalties up to and including termination of employment. Where illegal activities or theft of company property (physical or intellectual) are suspected, the company may report such activities to the applicable authorities.

6.0 Definitions

Mac Address - Short for Media Access Control Address.   The unique hardware address of a network interface card (wireless or wired).   Used for identification purposes when connecting to a computer network.

SSID - Stands for Service Set Identifier.   The name that uniquely identifies a wireless network.

WEP - Stands for Wired Equivalency Privacy.   A security protocol for wireless networks that encrypts communications between the computer and the wireless access point.   WEP can be cryptographically

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broken with relative ease.

WiFi - Short for Wireless Fidelity.   Refers to networking protocols that are broadcast wirelessly using the 802.11 family of standards.

Wireless Access Point - A central device that broadcasts a wireless signal and allows for user connections.   A wireless access point typically connects to a wired network.

Wireless NIC - A Network Interface Card (NIC) that connects to wireless, rather than wired, networks.

WPA - Stands for WiFi Protected Access.   A security protocol for wireless networks that encrypts communications between the computer and the wireless access point.   Newer and considered more secure than WEP.

7.0 Revision History

Revision 1.0, 9/14/2017

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